### PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF MD 355 AND MD 27 IN MONTGOMERY COUNTY. MD 355 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

#### CONTROLLER OPERATION

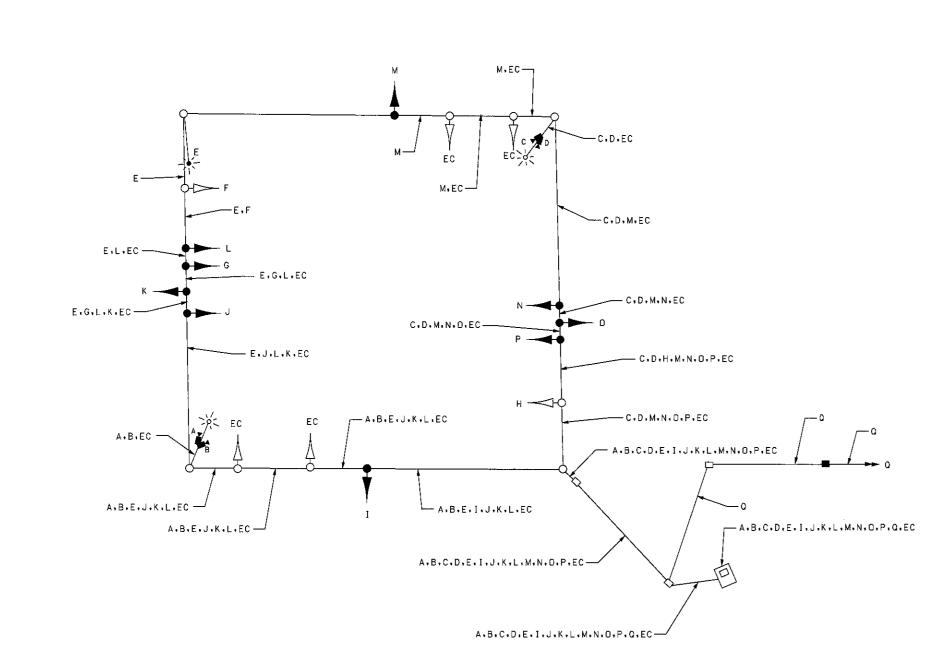
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THE EXISTING EIGHT-PHASE, FULLY ACTUATED NEMA CONTROLLER HOUSED IN A BASE MOUNTED CABINET WILL BE USED. THE INTERSECTION CURRENTLY OPERATES AS AN EIGHT-PHASE, SEMI-TRAFFIC-ACTUATED INTERSECTION WITH EXCLUSIVE-PERMISSIVE LEFT TURN PHASES FOR NORTHBOUND AND SOUTHBOUND MD 355 AND SIDE STREET SPLIT PHASING. THE LEFT TURN PHASING ON MD 355 WILL BE CHANGED FROM EXCLUSIVE-PERMISSIVE TO EXCLUSIVE.

#### PHASE CHART

|               | 1  | 2    | 3<br>(F)<br>(Y)<br>(9) | 4<br>(R)<br>(Y)<br>(G) | 5<br>(R)<br>(Y)<br>(G) | 6 (R) (T) (T) (T) (T) | 7       | 8 (8) (9) | 9 (8)  | 10<br>R<br>V<br>G | 11<br>R<br>Y<br>G<br>G | 12<br>(R)<br>(Y)<br>(G) | 13<br>R<br>Y<br>G | 1 4<br>R<br>Y<br>G | 15<br>(R)<br>(V)<br>(G) | 16<br>例<br>尖 | 17<br>例<br>尖 | 18<br>(%) | 19<br>例<br>头 | 20<br><b>师</b><br>子 | 21<br>停<br>子 | 22<br>P<br>L | 23<br><b>师</b><br>子 |             |
|---------------|--|------|------------------------|------------------------|------------------------|-----------------------|---------|-----------|--------|-------------------|------------------------|-------------------------|-------------------|--------------------|-------------------------|--------------|--------------|-----------|--------------|---------------------|--------------|--------------|---------------------|-------------|
| PHASE 1 & 5   | ⊲G−  | ⊲G-  | < G−                   | R                      | R                      | ⊲G-                   | ⊲G-     | R         | R      | R                 | R                      | R                       | R                 | R                  | R                       | DW           | DW           | DW        | DW           | DW                  | DW           | DW           | DW                  | 1           |
| 1 & 5 CHANGE  |  | PHA  | SE 1 &                 | 5 CHA                  | NGE MA                 | Y CHAN                | GE TO I | PHASE     | 1 & 6, | 2 & 5             | OR 2                   | & 6                     |                   |                    |                         |              |              |           |              |                     |              |              |                     | 7 6-        |
| PHASE 1 & 6   | ⊲G-  | □G   | ⊲G−                    | G                      | G                      | ⊲R−                   | ⊲R-     | R         | R      | R                 | R                      | R                       | R                 | R                  | R                       | DW           | DW           | DW        | DW           | DW                  | DW           | DW           | DW                  | 4           |
| 1 & 6 CHANGE  | <\/>Y−   | <1Y− | < <b>∀</b> Y−          | G                      | G                      | ⊲R-                   | ⊲R-     | R         | R      | R                 | R                      | R                       | R                 | R                  | R                       | DW           | DW           | DW        | DW           | DW                  | DW           | DW           | DW                  | <b>ት</b> √- |
| PHASE 2 & 5   | <r−< td=""><td>⊲R−</td><td>&lt; R−</td><td>R</td><td>R</td><td>⊲G-</td><td>⊲G-</td><td>G</td><td>G</td><td>R</td><td>. R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>DW</td><td>DW</td><td>DW</td><td>DW</td><td>DW</td><td>DW</td><td>DW</td><td>DW</td><td>17</td></r−<> | ⊲R−  | < R−                   | R                      | R                      | ⊲G-                   | ⊲G-     | G         | G      | R                 | . R                    | R                       | R                 | R                  | R                       | DW           | DW           | DW        | DW           | DW                  | DW           | DW           | DW                  | 17          |
| 2 & 5 CHANGE  | ⊲R-  | ⊲R−  | ⊲R-                    | R                      | R                      | < <b>∀Y</b> −         | <1Y-    | G         | G      | R                 | R                      | R                       | R                 | R                  | R                       | DW           | DW           | DW        | DW           | DW                  | DW           | DW           | DW                  | F           |
| PHASE 2 & 6   | <r< td=""><td>_⊲R−</td><td>⊲R-</td><td>G</td><td>G</td><td>⊲R-</td><td></td><td>G</td><td>G</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>R</td><td>WK</td><td>WK</td><td>WK</td><td>WK</td><td>DW</td><td>DW</td><td>DW</td><td>DW</td><td>Ĭ-</td></r<>           | _⊲R− | ⊲R-                    | G                      | G                      | ⊲R-                   |         | G         | G      | R                 | R                      | R                       | R                 | R                  | R                       | WK           | WK           | WK        | WK           | DW                  | DW           | DW           | DW                  | Ĭ-          |
| PED. CLEAR    | ⊲R−  | ⊲R-  | ⊲R-                    | G                      | G                      | < R                   | ⊲R-     | G         | G      | R                 | R                      | R                       | R                 | R                  | R                       | FL/DW        | FL/DW        | FL/DW     | FL/DW        | DW                  | DW           | DW           | DW                  | 7           |
| 2 & 6 CHANGE  | ⊲R−  | ⊲R-  | ⊲R-                    | Υ                      | Υ                      | ⊲R-                   | ⊲R-     | Υ         | Υ      | R                 | R                      | R                       | R                 | R                  | R                       | DW           | DW           | DW        | DW           | DW                  | DW           | DW           | DW                  | <u> </u>    |
| PHASE 3       | ⊲R−  | ⊲R−  | ⊲R-                    | R                      | R                      | ⊲R−                   | ⊲R-     | R         | R      | R                 | R                      | R                       | Ğ<br>4G−          | 0<br>⊲G−           | G                       | DW           | DW           | DW        | DW           | DW                  | DW           | DW           | DW                  |             |
| 3 CHANGE      | ⊲R−  | ⊲R-  | ⊲R-                    | R                      | R                      | ⊲R-                   | ⊲R-     | R         | R      | R                 | R                      | R                       | Υ                 | Υ                  | Υ                       | DW           | DW           | DW        | DW           | DW                  | DW           | DW           | DW                  | }↓          |
| PHASE 3 ALT.  | ⊲R-  | ⊲R−  | ⊲R-                    | R                      | R                      | ⊲R-                   | ⊲R−     | R         | R      | R                 | R                      | R                       | G<br>46-          | 0<br><b>4</b> 0−   | G                       | DW           | DW           | DW        | DW           | WK                  | DW           | DW           | WK                  | 0           |
| PED. CLEAR    | ⊲R−  | ⊲R-  | ⊲R-                    | R                      | R                      | ⊲R-                   | ⊲R~     | R         | R      | R                 | R                      | R                       | 6<br><b>∢</b> 6−  | g<br><b>4</b> g−   | G                       | DW           | DW           | DW        | DW           | FL/DW               | DW           | DW           | FL/DW               |             |
| 3 ALT, CHANGE | ⊲R−  | ⊲R−  | ⊲R−                    | R                      | R                      | ⊲R−                   | ⊲R−     | R         | R      | R                 | R                      | R                       | Υ                 | Υ                  | Υ                       | DW           | DW           | DW        | DW           | DW                  | DW           | DW           | DW                  |             |
| PHASE 4       | ⊲R-  | ⊲R-  | ⊲R−                    | R                      | R                      | ⊲R−                   | ⊲R-     | R         | R      | G<br><b>4</b> 6−  | - G<br>- <b>⊘</b> 16~  | G                       | R                 | R                  | R                       | DW           | DW           | DW        | DW           | DW                  | DW           | DW           | DW                  | Ĭ Z         |
| 4 CHANGE      | ⊲R-  | ⊲R-  | ⊲R−                    | R                      | R                      | ⊲R-                   | ⊲R−     | R         | R      | Υ                 | Υ                      | Υ                       | R                 | R                  | R                       | DW           | DW           | DW        | DW           | DW                  | DW           | DW           | DW                  | H           |
| PHASE 4 ALT.  | ⊲R−  | ⊲R-  | ⊲R-                    | R                      | R                      | ⊲R−                   | ⊲R-     | R         | R      | 0<br>⊲0−          | G<br>46-               | G                       | R                 | R                  | R                       | DW           | DW           | DW        | DW           | DW                  | WK           | WK           | DW                  |             |
| DED 01 E4D    | ΔD   | ⊿D.  | 4D                     | - D                    |                        | 4n                    | 45      | _         |        | g                 | G                      |                         |                   | _                  |                         | 5144         | D147         | 5144      | 5141         | 5347                | F1 (D14)     |              |                     | 1           |

## WIRING DIAGRAM



#### WIRING KEY

- A-D VIDEO DETECTION 250 FT.
- PREMANUFACTURED CABLE E 2 CONDUCTOR ELECTRICAL CABLE
- (NO. 12 A.W.G.) F-H 5 CONDUCTOR ELECTRICAL CABLE
- (NO. 14 A.W.G.)
- I-P 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- Q 12-PAIR COMMUNICATION CABLE, JELLY FILLED UNDERGROUND

## EQUIPMENT LIST "A"

A. APPROVED SHA EQUIPMENT TO BE PURCHASED BY THE DEVELOPER AND INSTALLED BY THE CONTRACTOR, ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

ITEM NO. QUANTITY DESCRIPTION

NONE

#### CONTACT PERSONS FOR DISTRICT 3 ARE AS FOLLOWS:

MR. LEE STARKLOFF ASSISTANT DISTRICT ENGINEER - TRAFFIC

MR. AUGESTINE REBISH ASSISTANT DISTRICT ENGINEER - MAINTENANCE (301) 513-7304

(301) 513-7318

MR. AUGIE REBISH ASSISTANT DISTRICT ENGINEER - UTILITIES (301) 513-7350

#### CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

MR. RICHARD DAFF, SR. CHIEF, TRAFFIC OPERATIONS (410) 787-7630

MR. ROBERT SNYDER ASSISTANT DIVISION CHIEF. TRAFFIC OPERATIONS

(410) 787-7631

MR. ED RODENHIZER TEAM LEADER SIGNAL OPERATIONS (410) 787-7652

MR. EUGENE BAILEY TEAM LEADER SIGN OPERATIONS (410) 787-7676

MS. DARLENE EIDE SUPPLY OFFICE SIGNAL SHOP WAREHOUSE (410) 787-7668

## EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR ALL EQUIPMENT SHALL HAVE CATALOG CUTS SUBMITTED TO OOTS FOR APPROVAL PRIOR TO INSTALLATION.

| ITEM NO. | QUANTITY | DESCRIPTION  |
|----------|----------|--|
|          |          |  |
| 1001     | 1 EA     | MAINTENANCE OF TRAFFIC   |
| 5004     | 75 LF    | FURNISH AND INSTALL 12 IN. WHITE HEAT APPLIED PERMANENT THERMOPLASTIC PAVEMENT MARKING |
| 5005     | 35 LF    | FURNISH AND INSTALL 24 IN. WHITE HEAT APPLIED PERMANENT THERMOPLASTIC PAVEMENT MARKING |
| 8001     | 4 EA     | FURNISH AND INSTALL 250 FT. VIDEO CABLE TO CONTROLLER                                  |
| 8011     | 25 EA    | FURNISH AND INSTALL 12 IN. VEHICULAR SIGNAL HEAD SECTION                               |
| 8013     | 1 EA     | FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE                         |
| 8014     | 1 EA     | FURNISH AND INSTALL 250 WATT HPSV LUMINAIRE  |
| 8048     | LS       | REMOVE AND DISPOSE OF EXISTING EQUIPMENT   |
| 8049     | 4 EA     | FURNISH AND INSTALL VIDEO DETECTION CAMERA   |
| 8050     | 1 EA     | FURNISH AND INSTALL VIDEO INTERFACE EQUIPMENT  |
| 8053     | 480 LF   | FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC<br>CONDUIT — TRENCHED       |
| 8072     | 2 EA     | FURNISH AND INSTALL ELECTRICAL HANDHOLE  |
| 8076     | 1080 LF  | FURNISH AND INSTALL 12 PAIR COMMUNICATION CABLE UNDERGROUND                            |
| 8084     | 40 LF    | FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR                                       |
| 8085     | 1830 LF  | FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR                                       |
| 8086     | 370 LF   | FURNISH AND INSTALL ELECTRICAL CABLE 2—CONDUCTOR ND. 12 AWG                            |
|          | 3 EA     | FURNISH AND INSTALL R3-5L SIGN (30" X 36") SPAN WIRE MOUNT                             |
|          | 1 EA     | RELOCATE EXISTING SIGNAL HEAD  |
|          | 2 EA     | RELOCATE EXISTING SIGN   |
|          | 1 EA     | ADJUST EXISTING HANDHOLE TO FINAL GRADE  |

## EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

ITEM NO. NONE

QUANTITY

DESCRIPTION

ALL SIGNAL EQUIPMENT TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

# TRAFFIC CONCEPTS , INC.

Brightview Business Center 325 Gambrills Road Suite E Gambrills, MD 21054 (410) 923-7101



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION Office of Traffic & Safety TRAFFIC ENGINEERING DESIGN DIVISION

GENERAL INFORMATION SHEET

MD 355 AND MD 27/RIDGE ROAD

DRAWN BY: M. HOWELL F.A.P. NO. CHECKED BY: T. ZAYDEL To 1/03 S.H.A. NO. 870C GI SHEET NO. MONTGOMERY SCALE: NONE COUNTY: T.I.M.S. NO. 15035519.83 8-26-02 DATE: LOG MILE: \_ F-06I